

REMARKS

Claims 1-11 are pending.

Claims 1-11 are rejected.

New claim 12 is added.

No new matter is added.

Claims 1-12 remain in the case.

Applicant requests reconsideration and allowance of the claims in light of the following remarks.

Claim Rejections – 35 U.S.C. § 103

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent no. 6,051,349, Yoshioka et al., (“Yoshioka et al.”).

Applicant respectfully traverses the Examiner’s rejection.

With respect to claim 1, the Examiner has admitted that Yoshioka does not expressly disclose, “determining a resist film exposure responsive to the resist film temperature data.” Yoshioka merely teaches controlling of exposure time in response to a line width.

Claim 1 of the present invention uses “temperature data” to control the processing (film exposure time). More specifically, claim 1 teaches the method of determining exposure time responsive to “temperature data.”

Nothing in Yoshioka teaches that the light exposure time is determined responsive to the temperature data. Mere descriptions concerning the relationships between the bake temperatures and the line widths of patterns do not teach or suggest, “determining a resist film exposure time responsive to the resist film temperature data,” as recited in claim 1. More particularly, in Yoshioka, at col. 12, lines 41-54, it is merely stated that the information on the measurement of the line width is fed back so as to control at least one of the resist coating conditions such as...light exposure time...the baking temperature. Nothing here teaches or suggests the light exposure time is controlled responsive to the temperature data as recited in the claimed invention. Rather, light exposure time and the baking temperature are merely one of many conditions that are decided responsive to the line width. This does not suggest, “determining a resist film exposure time responsive to the resist film temperature data,” as recited in claim 1.

It is well settled that a reference must provide some motivation or reason for one skilled in the art to make the necessary changes. The mere fact that a reference may be modified in the direction of the claimed invention does not make the modification obvious unless the reference expressly or impliedly teaches or suggests the desirability of the modification. There is no such teaching or suggestion in the cited references for the reasons discussed above. Rather, Yoshioka merely discloses controlling the light exposure time based on the line width of the resist pattern measured immediately after the development as shown in FIG.S 14 and 15. Thus, claim 1 is believed to be allowable.

Claims 2-11 allow for the addition of feedback to control the exposure time for subsequent wafers. These claims depend from claim 1, and for at least the reasons given for claim 1, these claims are believed to be allowable.

With respect to new claim 12, for the reasons discussed above, nothing in Yoshioka teaches or suggests,

“transmitting resist film temperature data from the resist coating and developing apparatus to the exposure control apparatus;

determining a resist film exposure time responsive to the resist film temperature data; and

exposing the resist film to a light source for the determined resist film exposure time, wherein the resist film temperature data as initially calculated are replaced with practically measured temperature data after soft and hard baking processes are performed to adjust the exposure time,” as recited in new claim 12. Particularly, in Yoshioka, the correction of the exposure time is done only when the detected value of the resist film thickness does not fall within an allowable range and not in response to practically measured temperature data after soft and hard baking processes are performed. Thus, new claim 12 is allowable.

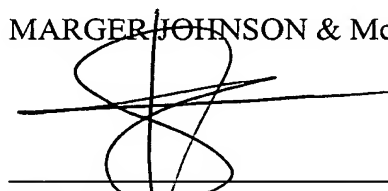
For the reasons discussed above, the rejection does not present a *prima face* case of obviousness and all of the claims are allowable.

In conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-12 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Kevin S. Ross
Reg. No. 42,116

MARGER JOHNSON & McCOLLOM, P.C.
1030 SW Morrison Street
Portland, OR 97205
503-222-3613
Customer No. 20575

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